

REMARKS

Claims 2 – 6 and 8 are pending and under consideration in the above-identified application, and Claims 1 and 8 were previously cancelled.

In the Office Action, Claims 2 – 6 and 8 were rejected.

In this Amendment, Claims 2 – 6 and 8 are amended. No new matter has been introduced as a result of this Amendment.

Accordingly, Claims 2 – 6 and 8 remain at issue.

I. In The Specification

The Abstract was objected to because its length is longer than 25 lines and contains more than 150 words.

Applicants have appropriately amended the Abstract and respectfully request that this objection be withdrawn.

II. In The Drawings

Fig. 11b was objected to because it failed to be designated by a legend such as –Prior Art—and Figs 2 and 6 were objected because they include reference characters not mentioned in the specification.

Applicants have appropriately amended Figs. 2, 6 and 11b and respectfully request that this objection be withdrawn.

III. 35 U.S.C. § 103 Obviousness Rejection of Claims 2 – 4 and 8

Claims 2 – 4 and 8 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Kobayashi et al.* (“*Kobayashi B2*”) (U.S. 6,527,375 B2) in view of *Kobayashi et al.* (JP 11-207963). Although Applicants respectfully traverse this rejection, to further prosecution, Claims 1, 7, 13 – 15, 29, 43 and 44 have been amended to clarify the invention and remove any ambiguities that may have been at the basis of this claim rejection.

Claim 1 is directed to a printing apparatus. The printing apparatus comprises a head including a plurality of ink discharging portions provided in an in-line juxtaposed relationship thereon, configured to deflect an ink droplet to be discharged therefrom in a plurality of directions coplanar with the line connecting the ink discharging portions to set a discharging deflection angle which is a maximum deflection amount of the ink droplet to be

discharged from the ink discharging portions to a plurality of angles. The head is configured to determine a printing resolution, in response to print data from between or among a plurality of printing resolutions which are determined based on distance separating the ink discharging portions, the discharging deflection angle of the ink droplet to be discharged from the ink discharging portions and a plurality of directions in which the ink droplet can be discharged from the ink discharging portions. The head is configured to select ink discharging portions from which an ink droplet can be discharged and the discharging deflection angle of the discharged ink droplet based on the determined printing resolution, and to determine the discharging direction of one or two or more ink droplets from the selected ink discharging portions. The head is configured to determine the discharging direction of the ink droplet for each of the selected ink discharging portions to provide the determined printing resolution.

Thus, the printing apparatus comprises a head including a plurality of ink discharging portions provided in a juxtaposed linear relationship thereon, configured to deflect an ink droplet to be discharged therefrom in a plurality of directions coplanar with the line connecting the ink discharging portions.

This is clearly unlike *Kobayashi B2* and *Kobayashi et al.*, taken singly or in combination with each other.

Kobayashi B2 discloses that (emphasis added):

“As shown in FIG. 5, the common electrodes 401, 402 and the orifice plate 212 together generate a charger electric field E1 in a region near the orifice 201. Because the orifice plate 212 is conductive and connected to the ground, the direction of the charger electric field E1 is parallel to the normal line of the orifice plate 212 as indicated by an arrow A1. *The common electrodes 401 and 402 also generate a deflector electric field E2 having a direction from the common electrode 401 to the common electrode 402 as indicated by an arrow A2. That is, the deflector electric field E2 has the direction A2 perpendicular to the orifice-line direction 302.* The magnitude of the deflector electric field E2 is in proportion to the electric voltage Vdef. The electric voltage Vdef is maintained at 400 V in this embodiment.”

See column 6, lines 35 – 49, and FIG5. *Kobayashi B2* further states that (emphasis added):

“In FIG. 7, *four ink droplets from a single orifice 201 seem to hit on different x-scanning lines 702.* However, these droplets are ejected at different timing while the recording sheet 502 moves toward y direction, *the impact positions 703 of these four*

ink droplets will be on the same x-scanning line 702, but on the different grid corners 704a."

See column 7, line 66 to column 8, line 4, and FIG. 7. Thus, in *Kobayashi B2* the ejected ink droplets are deflected in a direction from the common electrode 401 to the common electrode 402, as indicated by an arrow A2, which is perpendicular to the line 302 connecting the orifices (ink discharging portions). That is, *Kobayashi B2* fails to teach or suggest that the ejected ink droplets are deflected in a plurality of directions coplanar with the line connecting the ink discharging portions, as required by Claim 1.

Moreover, *Kobayashi et al.* also fails to teach or suggest this distinguishable limitation of Claim 1. As such, Claim 1 is patentable over *Kobayashi B2* and *Kobayashi et al.* taken singly or in combination with each other, as are dependent Claims 2- 6, for at least the same reasons.

Independent Claim 8 recites the same distinguishable limitation as that of Claim 1. Thus, Claim 8 is also patentable over *Kobayashi B2* and *Kobayashi et al.* taken singly or in combination with each other.

Accordingly, Applicants respectfully request that this claim rejection be withdrawn.

IV. 35 U.S.C. § 103 Obviousness Rejection of Claims 5 and 6

Claims 5 and 6 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Kobayashi B2* in view of *Kobayashi et al.* as applied to Claim 2 above, and further in view of *Ogasahara et al.* ("*Ogasahara*") (U.S. 2003/0030824). been at the basis of this claim rejection.

Claims 5 and 6 are dependent on Claim 2, shown above to be patentable over *Kobayashi B2* and *Kobayashi et al.*. Moreover, in addition to *Kobayashi B2* and *Kobayashi et al.*, *Ogasahara* also fails to fairly teach or suggest a head including a plurality of ink discharging portions provided in a juxtaposed linear relationship thereon, configured to deflect an ink droplet to be discharged therefrom in a plurality of directions coplanar with the line connecting the ink discharging portions.

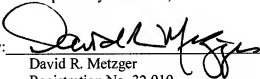
Thus, no combination of the cited references fairly teaches or suggests the subject matter of Claim 2. Accordingly, Claim 2 is patentable over the cited references, taken singly or in any combination with each other, as are dependent Claims 5 and 6, for at least the same reasons.

Accordingly, Applicants respectfully request that these claim rejections be withdrawn.

V. Conclusion

In view of the above amendments and remarks, Applicant submits that Claims 2 – 6 and 8 are clearly allowable over the cited prior art, and respectfully requests early and favorable notification to that effect.

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